IN THE CLAIMS

1. (Currently amended) A modem for use in a network, the modem being suited for interfacing to telephone subscriber equipment and providing voice functionality, the modem comprising:

a subscriber line interface for interfacing to the telephone subscriber equipment;

an encoder/decoder coupled to the subscriber line interface;

a voice interface circuit coupled to the encoder/decoder;

a communication network interface coupled to the voice interface circuit;

the voice interface circuit being operable to receive digital signals representative of audio signals generated by the telephone subscriber equipment, format the digital signals into voice packets, and provide the voice packets to the communication network interface;

the voice interface circuit being operable to receive voice packets representative of audio signals from the communication network interface, remove formatting from the voice packets to create digital signals and provide the digital signals to the encoder/decoder;

the communication network interface operable to transmit and receive voice packets over the communication network without ~~the application and removal of~~ applying and removing network stack formatting; whereby the modem does not require a network stack.

2. (Currently amended) The modem of claim 1, further comprising a local network interface coupled to the communication network interface, and wherein the communication network interface is operable to:

transmit and receive data packets over the communication network without ~~the application and removal of~~ applying and removing network stack formatting;

provide data packets received from the communication network to the local network interface; and

provide data packets received from the local network interface to the communication network.

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3. (Original) The modem of claim 2, wherein the communication network interface is further operable to give priority to voice packets over data packets.

4. (Original) The modem of claim 2, wherein the voice packets and data packets include a packet type and the communication network interface is further operable to:

    identify the packet type comprising a voice packet type and a data packet type;

    operate on the packet in accordance with the packet type; and

    give an increased priority to voice packets over data packets.

5. (Original) The modem of claim 1, wherein the subscriber line interface and the encoder/decoder are operable to interface to analog telephone subscriber equipment.

6. (Original) The modem of claim 1, wherein the subscriber line interface and the encoder/decoder are operable to interface to digital telephone subscriber equipment.

7. (Original) The modem of claim 1, wherein the subscriber line interface and the encoder/decoder are operable to interface to wireless telephone subscriber equipment.

8. (Original) The modem of claim 1, wherein the communication network is based on coaxial technology.

9. (Original) The modem of claim 1, wherein the communication network is based on twisted pair technology.

10. (Original) The modem of claim 1, wherein the communication network is based on fiber technology.

11. (Original) The modem of claim 1, wherein the communication network is based on wireless technology.

12. (Original) A server for providing voice functionality over a packet network, the server comprising:

a communication network interface;

a packet network interface;

a network stack; and

the server being operable to:

receive and transmit voice packets from and to a plurality of modems through a communication network at the communication network interface;

receive and transmit networked stacked voice packets from and to a plurality of destinations through a packet network at the packet network interface;

for voice packets received from a modem, applying a network stack to the voice packet prior to transmitting the networked stacked voice packet to a destination on the packet network; and

for network stacked voice packets received from the packet network, removing the network stack information prior to transmitting the voice packet to a modem.

13. (Original) The server of claim 12, wherein the server is further operable to:

receive and transmit data packets from and to a plurality of modems through the communication network at the communication network interface; and

receive and transmit data packets from and to a plurality of destinations through the packet network at the packet network interface.

14. (Original) The server of claim 12, wherein the voice packets and data packets include a packet type and the server is further operable to:

identify the packet type comprising a voice packet type and a data packet type;

operate on the packet in accordance with the packet type; and

give an increased priority to processing voice packets over data packets.

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15. (Original) The server of claim 14, wherein the voice packets and data packets include a packet type and the server is further operable to:

identify the packet type comprising a voice packet type, voice control packet type, data packet type and a data control packet type;

operate on the packet in accordance with the packet type; and

give an increased priority to voice packet types and voice control packet types over data packet types and data control packet types.

16. (Original) The server of claim 15, wherein upon reception of a voice control packet type from a particular modem indicating that the modem is sending an off-hook signal, the server increases the bandwidth for communicating with the particular modem.

17. (Original) The server of claim 15, wherein the communication network is a cable network.

18. (Original) The server of claim 12, wherein the voice packets and data packets include a packet priority and the server is further operable to give an increased priority to processing packets based on the packet priority.

19. (Currently amended) In a cable network comprising a plurality of cable modems connected to a server through the cable network, a method for distributing ~~the~~ processing ~~required to deliver~~ for delivery of services to end user devices, the method comprising the steps of:

a modem receiving a service request from an end user device interfaced to a modem;

formatting the service request into one or more packets;

assigning a packet type to the one or more packets; and

delivering the one or more packets to a server over the cable network;

the server receiving the one or more packets from the modem;

identifying the packet type of the one or more packets;

and if the packet is a voice packet, applying a network stack to the voice packet and delivering the networked stacked voice packet to a destination over a packet network.

20. (Original) The method of claim 19, wherein the modem interfaces to telephone subscriber equipment, and the step of the modem assigning a packet type further comprises the step of assigning a voice packet type to digitized voice signals and a voice control packet type to packets indicating that the telephone subscriber equipment is off-hook and on-hook.

21. (Original) The method of claim 19, wherein the modem interfaces to a plurality of telephone subscriber equipment, and the step of the modem assigning a packet type further comprises the step of assigning a unique voice packet type to digitized voice signals from each of the plurality of telephone subscriber equipment and a unique voice control packet type to packets indicating that each telephone subscriber equipment is off-hook and on-hook.

22. (Original) The method of claim 19, wherein the server interfaces to a packet network and further comprises the steps of:

the server receiving a packet from the packet network, the packet being destined for an end user device connected to a modem;

identifying the packet type of the received packet;

if the packet type is a voice packet, removing network stack information from the voice packet prior to forwarding the packet to the modem servicing the end user device and giving priority to delivering the voice packet over the delivery of any data packets;

if the packet type is a data packet, forwarding the data packet to the modem.

23. (Currently amended) A system for distributing the processing for providing services to end user devices attached to a cable network through a modem, the system comprising: a modem; and

a server in communication with the modem over a cable network;

the modem comprising:

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a subscriber line interface for interfacing to telephone subscriber equipment;

an encoder/decoder coupled to the subscriber line interface;

a voice interface circuit coupled to the encoder/decoder;

a modem cable network interface coupled to the voice interface circuit;

the voice interface circuit being operable to receive digital signals representative of audio signals generated by the telephone subscriber equipment, format the digital signals into voice packets, and provide the voice packets to the modem cable network interface;

the voice interface circuit being operable to receive voice packets representative of audio signals from the modem cable network interface, remove formatting from the voice packets to create digital signals and provide the digital signals to the encoder/decoder;

the modem cable network interface operable to transmit and receive voice packets over the cable network without the application and removal of network stack formatting; and

a server for providing voice functionality over a packet network, the server comprising:

a server cable network interface;

a packet network interface;

a network stack; and

the server being operable to:

receive and transmit voice packets from and to the modem through the cable network at the server cable network interface;

receive and transmit networked stacked voice packets from and to a plurality of destinations through a packet network at the packet network interface;

for voice packets received from the modem, applying a network stack to the voice packet prior to transmitting the networked stacked voice packet to a destination on the packet network; and

for network stacked voice packets received from the packet network, removing the network stack information prior to transmitting the voice packet to the modem.